

User Manual

homexpert™
by Honeywell



THR840DUK
Digital Thermostat

50051982-001 Rev. A

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 **NOTE:** This symbol will flash on the screen when battery power is low. Remove cover and replace batteries with two fresh AA alkaline batteries as shown on page 18.



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What is a room thermostat?

...an explanation for householders

A room thermostat simply switches the heating system on and off as necessary. It works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached. Turning a room thermostat to a higher setting will not make the room heat up any faster. How quickly the room heats up depends on the design of the heating system, for example, the size of boiler and radiators.

Neither does the setting affect how quickly the room cools down. Turning a room thermostat to a lower setting will result in the room being controlled at a lower temperature, and saves energy.

The heating system will not work if a time switch or programmer has switched it off.

The way to set and use your room thermostat is to find the lowest temperature setting that you are comfortable with, and then leave it alone to do its job. The best way to do this is to set the room thermostat to a low temperature – say 18°C – and then turn it up by one degree each day until you are comfortable with the temperature. You won't have to adjust the thermostat further. Any adjustment above this setting will waste energy and cost you more money.



If your heating system is a boiler with radiators, there will usually be only one room thermostat to control the whole house. But you can have different temperatures in individual rooms by installing thermostatic radiator valves (TRVs) on individual radiators. If you don't have TRVs, you should choose a temperature that is reasonable for the whole house. If you do have TRVs, you can choose a slightly higher setting to make sure that even the coldest room is comfortable, then prevent any overheating in other rooms by adjusting the TRVs.

Room thermostats need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture. Nearby electric fires, televisions, wall or table lamps may prevent the thermostat from working properly.

About your new thermostat

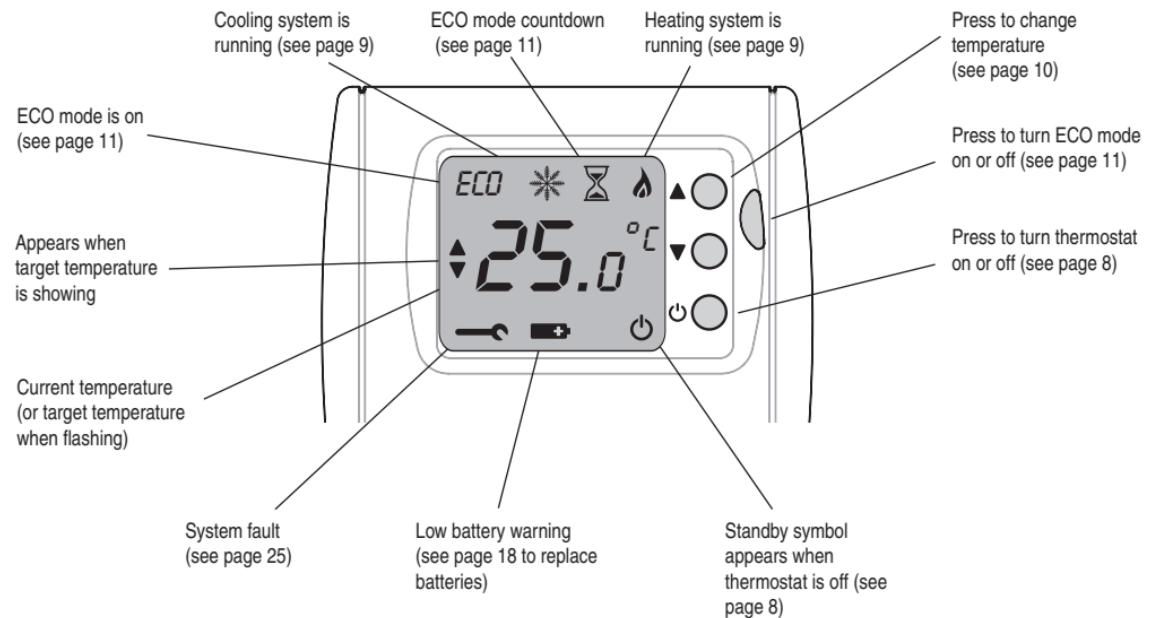
The THR840DUK is an easy-to-use thermostat designed to maintain a comfortable environment when you are at home and reduce energy costs when you are away. One touch of the ECO button overrides the normal temperature to maintain a lower, energy-saving level for a specified period of time (see page 11).

QUICK START GUIDE

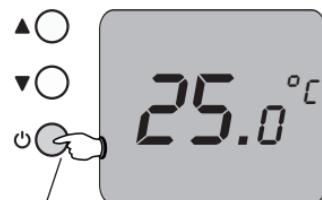
Your new thermostat is pre-programmed and ready to go. Just check the steps below and change settings if needed:

- 1 Install and set up thermostat**
(if this has not been done by a professional installer)..... See pages 12-24
- 2 Select heating (default) or cooling mode**..... See page 9
- 3 Set desired indoor temperature**..... See page 10

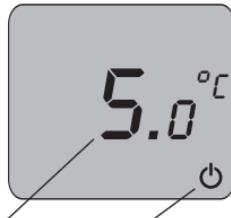
Quick reference



On/off switch and frost protection



Press and hold
to turn on or off



System maintains
minimum
temperature when
thermostat is off

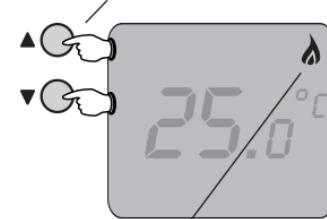
Symbol appears when
thermostat is off

Press the **ON/OFF** button as shown at left to turn the thermostat on or off. When off, the thermostat will never activate the cooling system, and will activate heating only if necessary to maintain a minimum indoor temperature of 5° C (frost protection).

You can change the frost protection temperature to any level between 5° and 16° C, or turn this feature off so the heating system is never activated when the thermostat is off (see page 22).

Heating or cooling control

Press and hold both buttons for 5 seconds



Heating changes to cooling



The thermostat is pre-set to control only your heating system. If installed and set up correctly, it can also be used to control your cooling system.

To switch between heating and cooling, press and hold the ▲ and ▼ buttons together until the screen changes.

i **NOTE:** The thermostat will not switch to cooling control unless you enable this feature (see page 22).

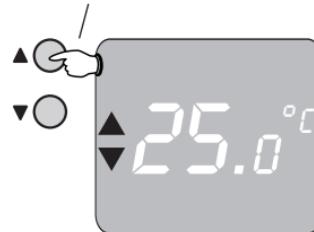
i **NOTE:** When you change the system, the "Heating" and "Cooling" symbols will appear for a few seconds, then disappear. Normally, these symbols appear only when the heating or cooling system is running.

Temperature control

Current room temperature



Press buttons to display or change target temperature



When idle, the thermostat displays the current room temperature. You can press the ▲ or ▼ buttons at any time to see the "target" temperature the thermostat is trying to maintain.

One button press will display the target temperature, flashing. To change it, press either button repeatedly, until the display shows the temperature you want. After a few seconds the display will stop flashing and change to show the current room temperature.

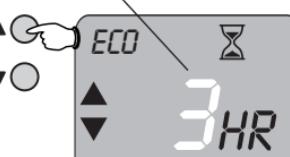
NOTE: You can use the ECO mode to temporarily override the target temperature for a specified period of time (see page 11).

Energy-saving ECO mode

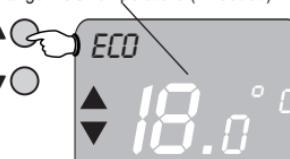
Press to enter ECO mode



Set number of hours



Change ECO temperature (if needed)



The ECO mode overrides thermostat settings to maintain a different temperature for 1 to 24 hours. This can be useful to reduce heating or cooling costs when you are away from home.

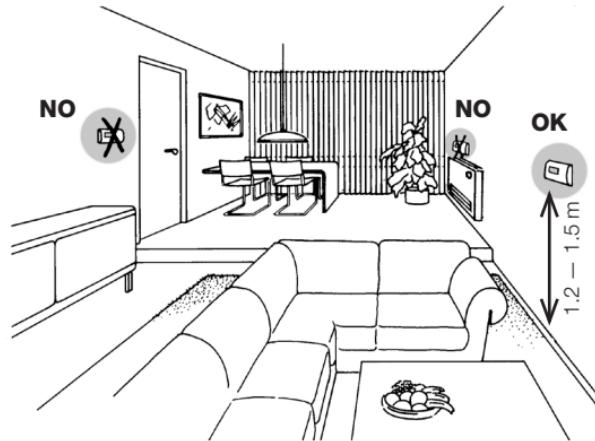
- 1 Press the green **ECO** button to display timer.
- 2 Press the ▲ or ▼ buttons to set timer (1-24 hours).

While in ECO mode, the screen will alternately display remaining time and current room temperature. After the timer expires, the thermostat will resume normal operation. Options:

- Press the ▲ or ▼ buttons to raise or lower the temporary ECO temperature if needed.
- Press the **ECO** button again to cancel ECO mode and resume normal operation.

NOTE: The default ECO temperature is pre-set to 18° C. To raise or lower the default temperature, see page 22.

System installation



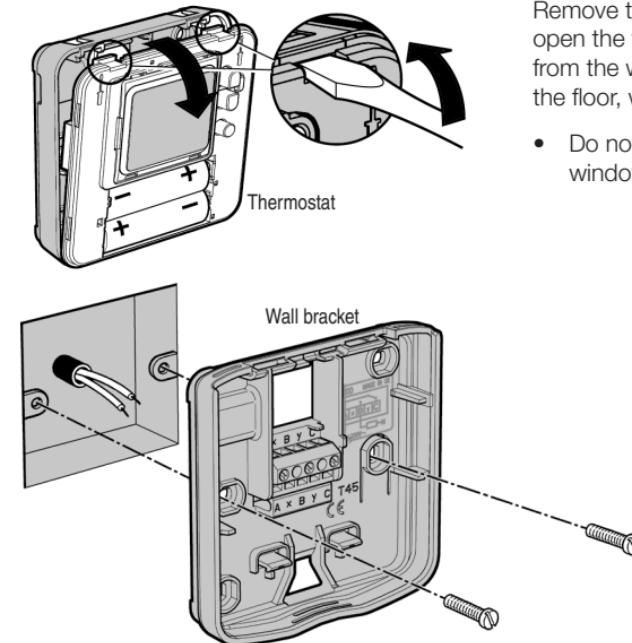
Installation procedure

- 1 Disconnect electric power
- 2 Choose thermostat location and install wall bracket
- 3 Connect system wiring
- 4 Activate batteries and attach thermostat cover
- 5 Restore electric power
- 6 Setup and test system operation

i *NOTE: If you are not experienced in equipment installation, we recommend that these procedures be done by a professional installer.*

⚠ DISCONNECT ELECTRIC POWER BEFORE INSTALLATION: Can cause electrical shock or equipment damage.

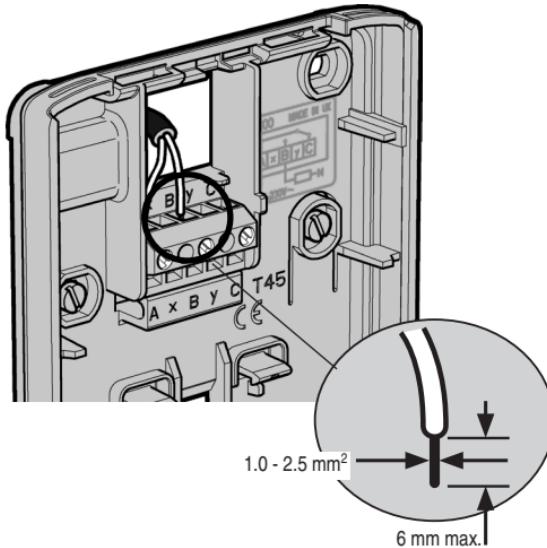
Wall bracket installation



Remove the thermostat cover and use a screwdriver to pry open the tabs as shown at left, then remove the thermostat from the wall bracket. Install about 1.2 to 1.5 metres above the floor, where the display screen can be easily seen.

- Do not install near sources of hot or cold air (radiators, windows, heating or cooling ducts).

Connect system wiring



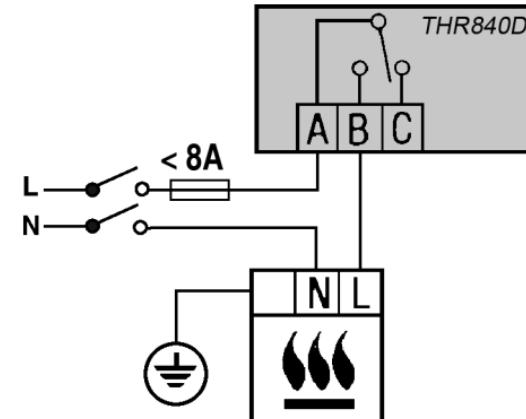
Connect wiring from your heating or cooling equipment to the thermostat as shown at left. See wiring diagrams on pages 15-17 for details.

- 1 Make sure electrical power is off.**
- 2 Strip insulation to expose about 6 mm of bare wire.
- 3 Use a screwdriver to loosen terminal screw, insert wire into slot, then tighten screw.
- 4 Replace thermostat cover, then restore electrical power.

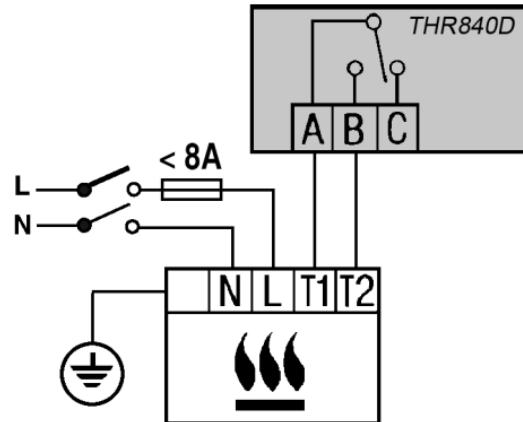
i **NOTE:** All wiring must comply with IEE regulations. Keep AC mains supply/load cables separate from equipment wiring.

Wiring diagrams

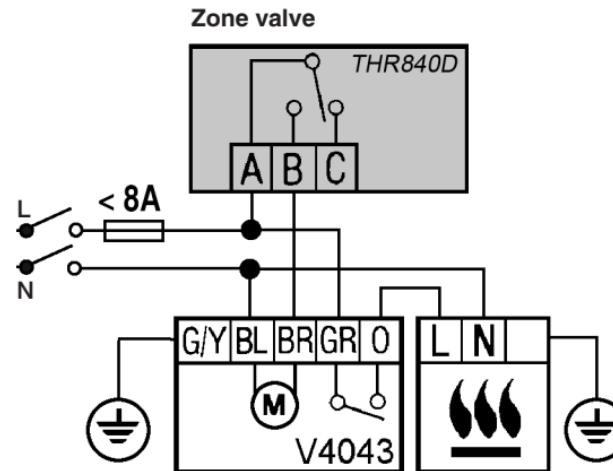
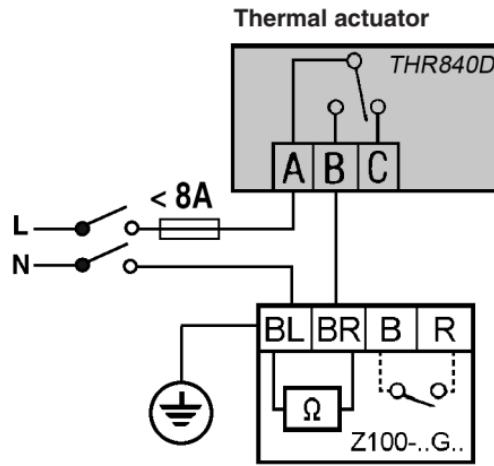
Basic boiler



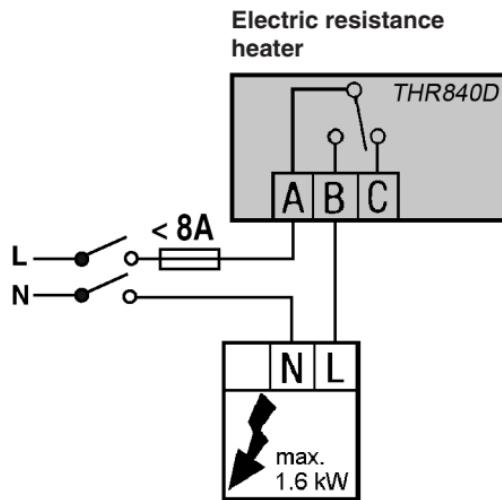
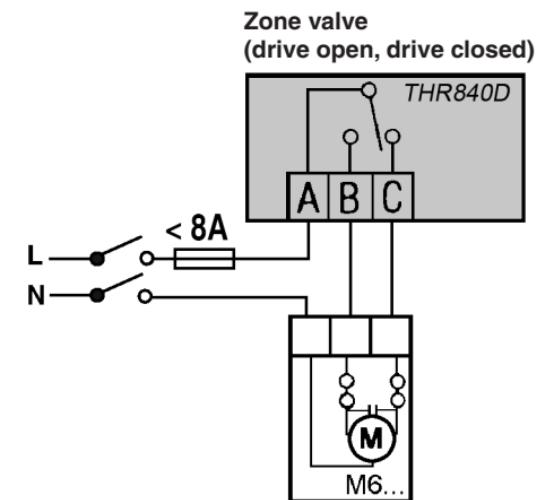
Combi boiler



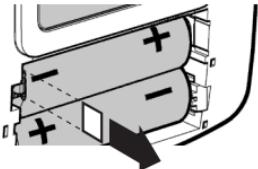
Wiring diagrams



Wiring diagrams



Activate batteries and mount thermostat



Remove the thermostat cover (see page 13). Discard the plastic tab inside to activate the batteries, then replace batteries. The thermostat should display the current room temperature.

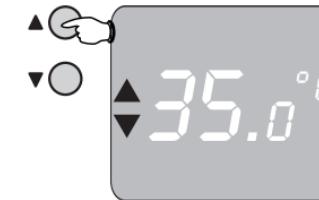
Replace the thermostat front cover, then mount the thermostat on the wall bracket as shown at left.



NOTE: This symbol will flash on the screen when battery power is low. Remove cover and replace batteries with two fresh AA alkaline batteries.

System test

Set temperature to maximum



Heat should turn on



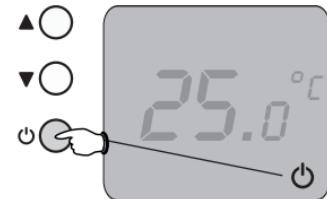
After installation, you should check to make sure the system is working properly.

- 1 Check the power supply to make sure the heating system is on.
- 2 Press the ▲ button to raise target temperature to maximum (35°C).

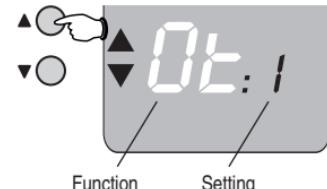
If the system is set up properly, the “heating” symbol should appear on the thermostat display, and the heating system should begin running.

- 3 To stop the test, press the ▼ button to lower the target temperature to an appropriate level. The heating system should turn off and the “heating” symbol on the thermostat screen should disappear.

Installer setup



Press and hold both buttons for 5 seconds



Function Setting

Installer settings allow you to customise how your system works. Check the tables on pages 21-23 to see if any settings need to be changed.

To change installer settings:

- 1 Press and hold the **ON/OFF** button for 5 seconds.
- 2 Press and hold the ▲ and ▼ buttons together until the screen changes.
- 3 Press the ▲ or ▼ buttons to scroll through functions quickly until you find one you want to change (see list on pages 21-22).
- 4 To change any setting, press the **ON/OFF** button, then press the ▲ or ▼ buttons until the correct value is flashing.
- 5 Press the **ON/OFF** button again to save your choice, then use the ▲ or ▼ buttons to select another function.

To exit installer setup, press and hold the **ON/OFF** button for 5 seconds.

Installer setup functions

** Factory default setting

Function	Description	Setting Options
1: Ot	Minimum boiler on/off time	1 minute ** Options: 1 to 5 minutes See page 23 for important information
2: Cr	Cycles per hour (CPH)	6 cycles per hour ** Options: 3, 6, 9 or 12 See page 23 for important information
3: Pb	Proportional band width	1.5°C ** Options: 1.5° to 3°C
4: tO	Temperature offset	0: No offset ** Options: +3° to -3°C
5: uL	Maximum temperature allowed	35°C ** Options: 21° to 35°C
6: LL	Minimum temperature allowed	5°C ** Options: 5° to 21°C



NOTE: See descriptions of functions on page 24.

Installer setup functions

Enter Installer Setup (see page 27), then press ▲ or ▼ for access to system settings

Function	Description	Setting Options
7: ES	ECO default temperature	18°C ** Options: 5° to 35°C
8: HC	Heating/Cooling options	0: No central cooling system installed ** 1: Allows switching between heating and cooling systems <i>Thermostat cannot control cooling unless you select 1</i>
9: OS	Frost protection temperature	5°C ** Options: — (none) or 5° to 16°C
10: EH	Electric heat	0: Resistive loads <3 A ** 1: Resistive loads 3 to 8 A <i>See page 23 for important information</i>
11: FS	RESET TO FACTORY DEFAULT	0: No change 1: Select 1 to restore default settings. All customised settings will be lost.

i NOTE: See descriptions of functions on page 24.

Customised settings for your system

Your heating system	Changes required	Setting Options
Standard gas boiler (<30kW)	None	No change
Zone Valve	None	No change
Oil boiler	Function 1: Ot Function 2: Cr	Set to 4 minutes Set to 3 CPH
Thermal actuator	Function 2: Cr	Set to 12 CPH
Electric heating	Function 2: Cr Function 10: EH	Set to 12 CPH Set to 1 if load > 3A

Your cooling system	Changes required	Setting Options
Heat pump/air conditioner	Function 1: Ot Function 2: Cr Function 8: HC	Set to 4 minutes Set to 3 CPH Set to 1
Fan coil	Function 8: HC	Set to 1

i NOTE: After changing the above settings to accommodate a cooling system, you can switch the thermostat to control either heating or cooling (see page 9).

Description of functions

Ot **Minimum boiler off time:** Check proper setting for your system (see page 23).

Cr **Cycles per hour:** Check proper setting for your system (see page 23).

Ot **Proportional band width:** If your heating system is oversized for your home, you can compensate by increasing the width of the control proportional band up to 3°C.

tO **Temperature offset:** In some cases, the thermostat must be installed in a location that does not accurately control temperature for optimum comfort in other rooms. You can set the thermostat to compensate for this by adjusting the offset.

uL **Maximum temperature:** When the ▲ button is pressed, the thermostat will not allow a target temperature above the maximum you set.

LL **Minimum temperature:** When the ▼ button is pressed, the thermostat will not allow a target temperature lower than the minimum you set.

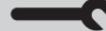
ES **ECO default temperature:** This is the default target temperature when the thermostat is in ECO mode (see page 11).

HC **Heating/cooling options:** When set to 1, the thermostat can control both heating and cooling systems (see page 9).

OS **Frost protection temperature:** Minimum temperature allowed when the thermostat is off (see page 8).

EH **Electric heat:** Check proper setting for your system (see page 23).

In case of difficulty

Thermostat screen is blank	<ul style="list-style-type: none">• Make sure two fresh AA alkaline batteries are properly installed (see page 18).
Heating or cooling system does not respond	<ul style="list-style-type: none">• Check thermostat batteries (see above).• Make sure heating or cooling system has power. Check fuses and circuit breakers and replace or reset as needed.• Check wiring (pages 14-17) and system configuration (pages 20-24).
Desired temperature cannot be maintained	<ul style="list-style-type: none">• If above remedies cannot resolve the problem, the thermostat may have to be moved. Make sure it is not installed near sources of hot or cold air (radiators, windows, heating or cooling ducts).
	<ul style="list-style-type: none">• If this symbol flashes on the screen during normal operation, a fault has occurred. Contact Honeywell Customer Care for assistance (see back cover for contact information).

Limited Warranty

Honeywell warrants this product for 1 year from date of purchase. We undertake to replace or repair at our discretion, products should they become defective within 1 year solely as a result of faulty materials and or workmanship.

Understandably if the product has not been installed or maintained in accordance with Honeywell's instructions, has not been used appropriately or if any attempt has been made to rectify, dismantle or alter the product in any way the warranty will be invalidated.

This product warranty states Honeywell's entire liability. It does not extend to cover consequential loss or damage or installation costs arising from a defective product.

If the product is defective, please return it together with a proof of purchase or receipt to the place of purchase.

This does not affect your statutory rights.

If you require further information about this product, call the homexpert™ by Honeywell technical helpline on 0845 604 2893.

For a full list of terms and conditions please visit www.homexpertbyhoneywell.com.

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Disposal and recycling

Disposal and recycling

Batteries and waste electrical products should not be disposed of with household waste. Please recycle where these facilities exist. Check with your local authority or retailer for recycling advice.

Please retain these instructions for future reference.



Need Help?

For assistance with this product please visit www.homexpertbyhoneywell.com, or call Honeywell Customer Care at 0845 604 2893.



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